

slopes. It supports a well-closed canopy dominated by American beech, red oak, yellow poplar, and red maple, though many other species including white oak and hickories may be present. Examples in the western Piedmont often contain mountain species such as Canada hemlock and basswood. Better examples are considered to be those without a predominance of tuliptree, which often increases in abundance after logging. The understory, which may vary from sparse to fairly dense, often contains a fairly diverse mixture of species including American holly, ironwood, red bud, sourwood, flowering dogwood, hop-hornbeam, umbrella magnolia, and witch-hazel. Shrubs such as strawberry-bush (*Euonymus americanus*), smooth hydrangea (*Hydrangea arborescens*), mapleleaf viburnum (*Viburnum acerifolium*), deerberry (*Vaccinium stamineum*), and sometimes mountain laurel (*Kalmia latifolia*) may be sparse to fairly frequent or occurring in dense patches. Western Piedmont examples may contain mountain species such as flame azalea (*Rhododendron calendulaceum*), buffalo-nut (*Pyrularia pubera*), great rhododendron (*Rhododendron maximum*), and others. The herb layer is often fairly lush and species-diverse. Some of the more typical species are Christmas fern (*Polystichum acrostichoides*), heartleaf aster (*Aster divaricatus*), dimpled trout-lily (*Erythronium umbilicatum*), common hepatica (*Hepatica americana*), Solomon's-seal (*Polygonatum biflorum*), false Solomon's-seal (*Maianthemum racemosum*), bellworts (*Uvularia* spp.), common alumroot (*Heuchera americana*), rattlesnake fern (*Botrychium virginianum*), may-apple (*Podophyllum peltatum*), broad beech fern (*Phegopteris hexagonoptera*), woodland tick-trefoil (*Desmodium nudiflorum*), violets (*Viola* spp.), trillium (*Trillium* spp.), jack-in-the-pulpit (*Arisaema triphyllum*), bloodroot (*Sanguinaria canadensis*), black cohosh (*Cimicifuga racemosa*), and foamflower (*Tiarella cordifolia* var. *collina*). Some sites contain the very uncommon ginseng (*Panax quinquefolius*). The community typically grades to oak--hickory forest communities upslope, to Piedmont/Low Mountain Alluvial Forest along small streams, and less frequently to Piedmont/Mountain Swamp Forest or Piedmont/Mountain Bottomland Forest.

Basic Mesic Forest (Piedmont Subtype)

This rare community occurs on lower slopes, in ravines, or occasionally on well-drained stream bottoms on soils that are substantially less acidic than most in North Carolina. It is often associated with mafic rock types -- those with high levels of iron, calcium, and magnesium. Its canopy is closed and composed of moist-site trees such as tuliptree, American beech, red oak, white oak, black walnut, hackberry, Shumard oak, and other species. The understory includes saplings of the canopy species, as well as redbud, ironwood, cucumbertree, hop-hornbeam, and slippery elm. The shrub layer may be sparse to well-developed. Shrubs include pawpaw (*Asimina triloba*), leatherwood (*Dirca palustris*), mapleleaf viburnum (*Viburnum acerifolium*), spicebush (*Lindera benzoin*), bladder-nut (*Staphylea trifolia*), sweetshrub (*Calycanthus floridus*), storax (*Styrax grandifolia*), smooth hydrangea (*Hydrangea arborescens*), painted buckeye (*Aesculus sylvatica*), or common elderberry (*Sambucus canadensis*). The herb layer is usually notably lush and diverse, with species such as black cohosh (*Cimicifuga racemosa*), Christmas fern (*Polystichum acrostichoides*), wild ginger (*Asarum canadense*), doll's-eyes (*Actaea pachypoda*), moonseed (*Menispermum canadense*), blunt-lobed hepatica (*Hepatica americana*), bloodroot (*Sanguinaria canadensis*), ginseng (*Panax quinquefolius*), yellow ladyslipper